RC-FM-PTT (350-1)

28 October 1994

MEMORANDUM FOR Officer in Charge of Fort McCoy, Multi Purpose Training Range (MPTR), Range 29

SUBJECT: Multi Purpose Training Range Standard Operating Procedures

1. Purpose. To provide guidance on the conduct of training at the MPTR.

2. Applicability. This SOP applies to all units conducting training on the Fort McCoy MPTR.

3. General.

a. The enclosed range SOP is designed to aid you in the conduct of training on the MPTR.

b. As the OIC of the MPTR, you will have this range SOP on the Operations floor of the Tower at all times. You will be familiar with the contents prior to live fire training. Possession of the this SOP does not relieve you from the responsibility for possession of other training directives or documents required for the conduct of live fire training. Section I, Appendix I lists other references that will assist you.

4. For additional information contact Mr. Hoff at DSN 280-3004 or commercial (608)-388-3004.

Warren L. Dupuis
LTC, OD
Director of Training and Mobilization

FORT McCOY MULTI PURPOSE TRAINING RANGE STANDARD OPERATING PROCEDURES

TABLE OF CONTENTS

SECTION I

ADMINISTRATION

Purpose. The goal of this section is to outline the
dministrative responsibilities, duties and procedures at Range
, Multi Purpose Training Range.

a. The use of the MPTR is scheduled by Fort McCoy Range
heduling, Training Division, DPTMSEC. A proposed schedule will
staffed at least 6 months prior to the scheduled fiscal year.

b. Two briefings will be conducted prior to occupying the
TR.

(1) The firing unit Commander or his designated representative must
ceive the scenario recording information briefing from the MPTR Manager 60 to
days prior to use. The unit will submit firing scenarios a minimum of 30
ys prior to the MPTR manager for approval. No later than 10 days prior to
e, the unit commander or his designated representative must conduct an on
ght verification/approval of the units scenario. Any deviations from the
proved scenario must be approved by the MPTR Manager and Fort McCoy Range
fety.

(2) The MPTR Manager will brief the unit commander and
C's at least 3 days prior to the unit occupying the complex.
e facility manager will brief all aspects of the cantonment
ea, range layout, safety and tower procedures. All OIC's must
tend this briefing prior to assuming their duties as OIC's.

RESPONSIBILITIES

a. Multipurpose Training Range Manager

(1) Develop combat scenarios for qualification tables to
ximize unit training guidance and scenarios.

(2) Monitor range operation to ensure compliance with
fety regulations and this SOP.

(3) Provide using units access to the MPTR SOP.

(4) Assume overall responsibility for the operation of
e MPTR. This includes receipting, accepting and accounting for
l property, maintenance of the facility and the safe operation
the complex.

(5) Brief all units and OICs NLT 3 days prior to unit
cupation.

(6) Provide a computer operator.

(7) Repair targets as required.

c. Occupying Unit Commander.

(1) The commander is responsible for all unit actions at the MPTR.

(2) Will appoint a Range OIC, NCOIC, Safety Officer and Assistant
fety Officer (see section III).

(3) Coordinate with MPTR Manager for MPTR operations requirements
iefing/coordination meeting at least 14 days prior to occupation.

(4) Task the unit Master Gunner to coordinate with MPTR Manager for

(6) Provide crew evaluators.

SOIL CONTAMINATION. Units will dispose of metal and oil containers and all her contaminates IAW AR 200-1. These containers will not be thrown in the mpsters on the range.

REPORTING FIRES. Any unit personnel who witness a fire will immediately port it to the nearest MPTR personnel or Building 8129 (2-3004).

RADIO PROCEDURES.

a. The using unit will establish and maintain two means of continuous mmunication with Range Control at the time of occupation until the unit is eared off the range.

b. Range Control frequencies and procedures are at Appendix IV to this ction.

c. Primary communications within the MPTR is the telephone system. See lephone numbers at Appendix VII to this section.

RANGE AND BUILDING INSPECTIONS. The occupying unit is subject to spection at all times while occupying the MPTR.

PROPERTY ISSUE. All facilities and property are issued to the using unit a hand receipt. The unit will return all hand receipted property in a clean d serviceable condition. The facilities and property available for issue at e MPTR are:

a. FACILITIES.

(1) Building 8129 (Briefing/Debriefing Room)

(2) Tower (Bottom Floor)

(3) Track/Wheel Vehicle Parking Area (Adjacent to Bld. 8129)

(4) Ammo Loading Point

(5) Headquarters/Operations and Medic vehicle pad

(6) Enclosed Mess Area

(7) MPTR Maneuver Box

b. Property.

(1) Table and chairs.

(2) Range flags.

(3) Flashing lights.

(4) Range/road barriers.

(5) Trash cans.

FINAL CLEARANCE.

a. Cantonment Area. The unit will thoroughly police all signed areas to include buildings, track park, parking, and munition supply points.

(1) Units will thoroughly clean areas to include the following

(c) Toilet seats and toilets.

(d) Walls and partitions.

(e) Mirrors.

(f) Sinks.

(g) Trash cans.

(2) Units will thoroughly clean the briefing room to include the llowing specific items:

(a) Floors.

(b) Windows.

(c) Light shades.

(d) Walls.

(3) The unit will remove all POL contaminates and contaminated ground illage IAW AR 200-1. Notify the Complex Manager ASAP for assistance with jor spillage.

(4) The unit will use soapy water to clean floors in all of the ildings.

(5) The unit will replace all broken or missing items prior to earing.

(6) Hoses will not be used to clean walls or ceilings.

(7) No one may sign for the MPTR until the last unit has cleared.

b. Range.

(1) The unit will recover all antitank missile guide wires. All brass ll be removed from DPs, Aerial BPs, course roads and 10 meters on either side the course and return roads.

(2) The unit will clean the tower, classroom, and latrine used to clude floors, steps, windows, walkways and sidewalks.

(3) The unit will scrape the concrete pads and ammunition pad free of l mud and remove dirt and trash.

. MANDATORY RANGE MAINTENANCE PERIODS.

a. The range is shut down for required range maintenance during the llowing times:

(1) Daylight Savings Time: 0500-0700
1800-2000

(2) Central Standard Time: 0600-0800
1700-1900

b. Range Control will list all other shutdown periods on the Fort McCoy nge Bulletin.

. AMMUNITION PAD (UPLOAD AREA). The following criteria will be followed en stacking main gun rounds at the ammunition pad:

a. Crates of C511 will be stacked no more than two high.

.ll not be laid out on the ammo pad.

d. Main gun rounds taken out of the crates or boxes and still in their
.ber tubes will be stacked no higher than
oulder height. These rounds will be placed in such a manner so
to not fall off the dock. A braced pallet will be used to
event the rounds from moving and possibly rolling off the dock
ce stacked. Unopened crates or boxes may be used as a braced
.llet.

e. Bradley ammo will remain in boxes until uploaded and will not be
acked more than two boxes high.

. REFERENCES. See Appendix I to Section I.

PENDIXES:
I - References
II - Complex Schematics
II - Ammunition Loading Point
IV - Range Control Procedures
V - Logistics
VI - Range Checklist
II - Complex Communications
II - Dining Facility

PENDIX I (REFERENCES) TO SECTION I (ADMINISTRATION) TO FORT McCOY MPTR SOP

190-11	Physical Security of Arms, Ammunition and Explosives
200-1	Environmental Protection and Enhancement
385-63	Policies and Procedures for Firing Ammunition for Training, Target Practice, And Combat
RSCOM Reg 700-4	Ammunition
17-12.1-1,-2,-3	Tank Gunnery
23-24	TOW Gunnery
23-1	Bradley gunnery
1-140	Helicopter Gunnery
9-1300-206	Ammunitions and Explosive Standards
McCoy Reg 385-1	Training Activities
McCoy Reg 385-10-2	Tactile Safety
McCoy Reg 350-2	Reserve Component Training Support
McCoy PAM	Aerial Gunnery

'PENDIX II (MPTR SCHEMATICS) TO SECTION I (ADMINISTRATION) TO FT McCOY MPTR
)P

PURPOSE. To outline the specific set up that units will use when occupying
e Fort McCoy MPTR for training.

OBJECTIVE. To provide a standard set for all units using the MPTR Complex.

PROCEDURES.

a. This appendix and its enclosures define the acceptable way to set up
uipment, park vehicles and generally occupy this facility.

b. Deviations from these diagrams will only be approved on a case by case
.sis.

REFERENCES. See Appendix I to Section I.

CLOSURES:
Administrative Area
Operations Building
Traffic Flow
Track Park
Ammunition Pad
Crew Briefing Area
Unit Floor of Tower
Upload Area

CLOSURE 1 (Administrative Area) TO SECTION I TO APPENDIX II

ENCLOSURE 2 (Operations Building) TO SECTION I TO APPENDIX II

ENCLOSURE 3 (Traffic Flow) TO SECTION I TO APPENDIX II

ENCLOSURE 4 (Track Park) TO SECTION I TO APPENDIX II

ENCLOSURE 5 (Ammunition Pad) TO SECTION I TO APPENDIX II

CLOSURE 6 (Crew Briefing Area) TO SECTION I TO APPENDIX II

CLOSURE 7 (Unit Floor of Tower) TO SECTION I TO APPENDIX II

ENCLOSURE 8 (Upload Area) TO SECTION I TO APPENDIX II

PENDIX III (AMMUNITION LOADING POINT) TO SECTION I (ADMINISTRATION) TO FORT COY MPTR SOP

The MPTR Ammunition Point is to be used for temporary ammunition storage, ading and unloading of live ammunition, brass and dunnage only.

If Ammunition Pad is used it must have a guard posted on sight.

Unit must comply with all applicable DOD, Department of the Army and Fort Coy Regulations.

For additional guidance refer to paragraphs 11, page 7 of this SOP.

PENDIX IV (RANGE CONTROL PROCEDURES) TO SECTION I (ADMINISTRATION) TO FORT COY MPTR SOP

PURPOSE. To provide guidance and establish procedures for Range Control ocedures at the Ft McCoy MPTR.

APPLICABILITY. This procedure applies to all units conducting training on e MPTR.

GENERAL.

a. Frequencies.

Range Control/MEDEVAC	PRIMARY	46.80 New Squelch
	ALTERNATE	41.90 Old Squelch
Firing	Units provide internal frequencies (primary and alternate) for firing.	

b. Call signs. Range Control FM nets are directed nets and will operate as ch. Call signs. will be unit designation.

(1) Range Control is the net control station (NCS) for Range Control equencies.

(2) The MPTR Tower is the NCS for firing frequencies.

PROCEDURES.

a. Opening the range. Use the Range Control call sign, the range occupied d request permission to open. An opening "dry" time will be given and range ministrative data will be requested. This information will be transmitted in ain language. Information required is as follows:

(1) Range

(2) Unit

(3) Name and rank of OIC and RSO.

(4) Type of weapon.

(5) Number of personnel to fire.

b. The facility must be opened immediately upon unit occupation and remain en until all unit personnel depart the complex.

c. Prior to firing any weapon (M1/M1A1/M60A3 (Laser Range Finder cluded)), unit will call Range Control for a "wet" or "hot" time. (Have et" status information prepared.)

d. As the NCS, Range Control will initiate radio checks; however, units st monitor the Range Control frequency at all times while on the range. ALL its are required to maintain two means of communication with Range Control at l times. Failure to do so will result in the unit being placed in a eckfire status, until the problem is corrected.

e. Units will call Range Control and obtain a "dry" time whenever the mplex will not be in operation for 30 minutes or more.

f. Closing the range. Give Range Control the unit, the range occupied and quest a "dry" or closing time, have dry status information prepared.

'PENDIX V (LOGISTICS) TO SECTION I (ADMINISTRATION) TO FORT McCOY MPTR SOP

GENERAL. This annex provides for combat service support for units nducting training on the MPTR. Combat service support operations will be nducted IAW references in paragraph 3 except as specified in this annex.

MATERIAL AND SERVICES.

a. Supply. Details of how to get supplies are outlined in Ft McCoy Reg 0-2.

b. Transportation.

(1) Requests for transportation capability beyond unit capability ould be to the installation transportation office IAW Fort McCoy Reg 350 -2, ra 6-15.

c. Services.

(1) Available through normal garrison support organizations IAW rectives published by DOL.

(2) The Fort McCoy wash rack may be scheduled for use up to 48 hours advance by calling XXXXX.

REFERENCES.

a. Fort McCoy Reg 350 -2, Subject: Reserve Component Training Support.

on notification that you are going to be the Range OIC, you should begin anning for the range. This checklist is intended to be a guide for the Range C in his preparation, set up, and execution of the designated training event.

PLANNING PHASE.

a. Are the OIC and SO certified by the MSC?

b. What combat tables are to be fired? Familiarization, qualification, B, other.

c. Has the range been requested?

d. What targets are needed on the range?

e. What concurrent training does the commander want?

f. Have Scenarios been selected and approved ?

g. Barrier guard support and communication.

h. Is the safety officer laser safety certified?

PERSONNEL SUPPORT.

a. Name of OIC _____

b. Name of safety officer _____

c. Name of NCOIC _____

d. Names of assistant safety NCOs _____

e. Name of assistant OIC _____

f. Who are designated as backups _____

RANGE COORDINATION.

a. What is the firing schedule?

b. When/where to sign for the range?

c. What are special safety instructions?

d. Is transportation scheduled?

EQUIPMENT/MATERIAL REQUIREMENTS.

a. Range flag.

b. Range lights (night range only).

c. Four radios (RT 524) for tower.

d. Fire fighting equipment.

e. Fire extinguishers.

f. DA Form 1594 (15).

g. Range SOP with appropriate references.

j. Appropriate signs for marking concurrent training stations, parking, rst aid, break area, etc.

k. Three AN GRA/39s for the tower.

l. Two TA 312s for Field ASP.

m. Four antennas with matching units for The. tower.

n. Lensatic compass.

o. M1A11 Gunners Quadrant.

p. Six jump radios.

q. Binoculars.

r. TOW sight.

s. Chemlights for firing points, defensive positions, etc.

t. Three barrier guards.

Range opening guide for the OIC.

ME	EVENT	RESPONSIBILITY
30	Commo Check	OIC
00	SO/ASO Briefed	OIC
30	Range and Safety Briefing	OIC/SO
00	Vehicles to Firing Line	OIC/Platoon Ldr
30	Request for WET status from Range Control	OIC
30	Commence Firing	OIC

'PENDIX VII (COMPLEX COMMUNICATIONS) TO SECTION I (ADMINISTRATION) TO FORT
:COY MPTR SOP

PURPOSE. To provide guidance and to establish procedures for
mmunications with the MPTR.

OBJECTIVE. To outline the procedures for establishing communications at
e MPTR with Range Control, firers and internal communications.

PROCEDURES.

a. The occupying unit will establish FM communications with range control.
his FM station will be located in the tower. Additionally, the unit is
quired to verify contact with range control on the land line provided.

b. Communications between the unit headquarters and facilities of the
mplex will be with the internal
mmunications provided. Telephone numbers are as follows:

DG	**PURPOSE**	**TELEPHONE NUMBER**
wer		2-2841
29	Briefing Room	2-2375
	MPTR Operations	2-3304
	MPTR Maintenance	2-2145

c. All vehicles forward of the tower will maintain communications with the
wer on the firing frequency. All vehicles conducting individual crew tables
ll have an operational jump radio on the vehicle. All other vehicles will
intain communication with the tower on the admin net.

'PENDIX VIII (DINING AREA) TO SECTION I (ADMINISTRATION) TO FORT McCOY MPTR
)P

TBP

CTION II (TRAINING) TO FORT McCOY MPTR SOP

PURPOSE. This section outlines the procedures and sponsibilities concerning the execution of gunnery training at the MPTR.

PROCEDURES. Specific requirements for the conduct of gunnery at the MPTR e listed in the appropriate gunnery manual for each weapon system. They are t duplicated in this section. This section does not relieve the OIC of sponsibilities outlined in the reference listed below.

RESPONSIBILITIES.

a. Training Division, DPTMSEC. Provide gunnery support as outlined in ction I, paragraph 3a.

b. Unit Commanders. Execute responsibilities as outlined in Section I, ragraph 3c.

COORDINATING INSTRUCTIONS.

a. When in the cantonment area (i.e., motor pool, billets, range intenance, HQ, latrines) the garrison uniform is acceptable. When soldiers ave the cantonment area, they will be in the field uniform as specified by it SOP.

b. During inclement weather the unit will erect a warm up tent in the west d of the parking area.

c. Units must coordinate with the complex manager for an entrance guard cation/briefing.

REFERENCES.

a. FM 1-140, Helicopter Gunnery

b. FM 17-12-1,-2,-3 Tank Gunnery

c. FM 17-40

d. FM 23-1

e. AR 385-63

f. Fort McCoy Reg 350-2

g. Fort McCoy Reg 385-1

h. Fort McCoy Reg 385-10-2

i. Fort McCoy Pam 350-1

PENDIXES:

I - Range Capabilities

I - Range Operations

I - Support Requirements

V - Tower Communications

PENDIX I (RANGE CAPABILITIES) TO SECTION II (TRAINING) TO FORT McCOY MPTR SOP

The Fort McCoy MPTR provides collective training facilities for the jority of combat systems. Users include individual armor, scout and infantry ghting vehicles, scout and infantry squads, and aviation units conducting licopter gunnery. The MPTR can easily accommodate section level collective aining as well as the individual and crew qualification training listed ove.

The MPTR will meet all range requirements for the following gunnery ograms:

Tank Gunnery Tables V-X
Bradley Gunnery Tables V-XC/D
Scout Squad Qualification Course
AH1/AH64 Crew and Team Qualification
Infantry Squad/Platoon/Company Assault

The MPTR consists of the following facilities/equipment:

a. Administrative Area

Track and wheeled parking area.
Briefing/debriefing room (bldg 8129).
M-COFT Pad.
MPTR operations office (bldg 8129).
MPTR DS/GS Maintenance (bldg 8129).
Ammo pad.
Mess facility.
*Units must coordinate for portable latrines. It is recommended units e available billeting on the Fort McCoy cantonment area.

b. Range Area

Two level tower.
Holding area and return road.
1200 meter boresight panel.
One BFV hot box.
Two firing lanes.
Ten defensive positions.
Seven aerial BPs (AWSS)
Targetry to include:
50 stationary troop targets
16 sets of 3/4 troops
16 stationary tank/PC targets
4 moving tank/PC targets

The target system is fully automated and self-scoring. The computer center nsole will control all targetry on the facility. Primary sighting system for y and night firing will be a thermal sighting system. All targets are ermalized.

The MPTR target system is designed to operate from 5-125 degrees hrenheit. Operation of the targets at extreme temperatures cause damage to e target system. Consequently, the MPTR will not operate when temperatures ll below 5 degrees or exceed 125 degrees Fahrenheit. The MPTR manager or his esignated representative will notify the unit commander and Range OIC when the nge cannot be operated due to extreme temperature conditions.

The MPTR target system cannot operate when the wind speed exceeds 25 mph. e MPTR Manager or his designated representative will notify the unit mmander and the range OIC when the range cannot be operated due to high nds.

The MPTR must shut down during electric/lightning storms to prevent damage

LTIPURPOSE TRAINING RANGE LAYOUT (NOT TO SCALE)

PENDIX II (RANGE OPERATIONS) TO SECTION II (TRAINING) TO THE FORT McCOY MPTR
P

PURPOSE. The purpose of this appendix is to outline the procedures, ties, and responsibilities for the conduct of tower operations and gunnery aining at the MPTR.

PROCEDURES.

a. Vehicle Movement.

(1) On the first day of firing, the unit commander will ensure that l vehicles have completed the prep-to-fire checks prior to moving from the ack park to the holding area. The actual movement of vehicles will be ntrolled by the Range OIC or the assistant OIC on the administrative/control t. NO ONE uses the firing net unless instructed to do so by the OIC.

(2) Vehicle movement is controlled by the OIC and executed by the ain of command.

(a) Upon completion of boresighting the vehicles request rmission form the OIC to move to the ready line using the road west and south the tower.

(b) On the completion of firing, vehicles move from the return ads down the west side of the tower to the designated parking area near bldg 29 for their AAR. After the AAR, vehicles are moved to the ammunition point d then to the track park.

(3) Ground guides will be used in the administrative area (upon aving the ammo pad and up to the ready line). Ground guides are not required rward of the ready line.

(4) The speed limit at the MPTR is 25 MPH for all vehicles. During clement weather and night operations, vehicle commanders must reduce their eed to ensure the safe operation of his vehicle. The unit commander can duce the speed limit for his unit.

b. Tower Operations.

(1) The second floor is the range operation floor. The following rsonnel are authorized access to this floor: the computer operator, the unit ovided OIC and assistant, Readiness Group Master Gunner, firing vehicle TCE, ttalion commander or designated representative, the battalion S-3, and ttalion master gunner. The OIC is in charge of all personnel on the second oor. He controls the access and can remove unnecessary or distracting rsonnel at his discretion.

(2) The first floor is designated for the firing unit. This floor ll be used to conduct VIP briefings and unit operations as directed by the it commander.

RESPONSIBILITIES.

a. OIC. Specific duties are found in AR 385-63, Fort McCoy Reg 385-1, and e appropriate gunnery manual for the weapon systems being fired.

(1) Control the movement of vehicles from the track park to the LD iring Line).

(2) Read the scenario script to the firing crew. Control the vehicles vement as it negotiates the course.

(3) Control all actions on the range from the ammunition pad to the r moving target.

(5) Request maintenance support, as needed, through the computer erator. The OIC must ensure the MPTR is in a dry status from Range Control ior to allowing maintenance personnel down range.

(6) The OIC must be weapons system qualified and certified by the MSC mmander. He must attend the range briefing given by Range Control and the TR briefing.

(7) Notify Range Control and battalion headquarters of injuries, cidents, and serious incidents.

(8) Maintain the official range duty log. Log all events to include ring status, range shout down, bumper number of vehicles firing, and gnificant events.

(9) Verify completion of the target identification certification for ch crew member prior to allowing any crew to begin its first night engagement.

(10) During night firing, ensure that all vehicles are on line prior to e engagement.

b. Range NCOIC.

(1) Assist the OIC in the performance of his duties.

(2) Supervise the preparation areas to include the ammunition pad, ack parking areas to include the boresight line and ready line.

(3) Identify and troubleshoot problems to facilitate the quick vement of vehicles from the ammunition pad, track parking area (behind the wer), boresight line, and ready line.

(4) Supervise the installation of jump radios in firing vehicles.

(5) Ensure that the tower and surrounding areas remain clean and can effectively used to perform their missions.

(6) Assist firing units in the conduct of VIP briefings.

c. Computer Operator.

(1) Operate the computer console.

(2) Clear all movement of maintenance personnel down range with the C prior to their entering the firing line or down range area. The MPTR must dry for maintenance personnel to go down range. Range maintenance personnel st use headlights during hours of darkness. They will enter and exit using e return road.

(3) Maintain the scenario disks.

(4) Identify maintenance problems and notify range maintenance.

d. TCE/BCE.

(1) Assist the OIC in the performance of his duties.

(2) Record each engagement, to include instructions given to firing hicle.

(3) Annotate target data and times.

(4) Calculate scores from the point calculation sheet.

(5) Conduct AAR for each crew after completing a day or night table.

a. The programmable computer unit (PCU) is the primary scorer for target
.ts.

b. All timing procedures are IAW the appropriate gunnery manual for weapons
'stem being fired.

c. Obscuration both local and target, is discussed in FM
'-12.

d. Alibis may be requested for any mechanical malfunction, range or firing
hicle, that is due to no fault of the crew. The battalion master gunner will
rify on the alibi request sheet that the malfunction was not the fault of the
ew. The vehicle commander will submit an alibi request during his crew AAR.
o task will be refired unless an alibi request is submitted and approved by
e Commanders designated representative.

e. Any of the following major infractions will constitute
mediate disqualification:

(1) Failure to use the correct MOPP level during NBC engagements.

(2) Firing any weapon out of the range fan.

(3) Firing main gun at an excessive angle (above 5 degrees/15 degrees
r Bradley) of elevation.

(4) Failure of crew to clear all weapons upon completion of course
n.

(5) Possession of extra ammunition or spare machine guns on board
hicle.

(6) Crew's receiving two 30-point crew-cuts during a run because of
ilure to adhere to specific task conditions.

(7) Failure to verify position of "wingman" prior to firing.

f. Any combination of three of the following minor infractions during a
urse run may constitute immediate disqualification:

(1) Announcing FIRE before receiving an "UP" from loader.

(2) Firing before receiving "FIRE", "UP" or "ON THE WAY".

(3) Failure to display proper flag.

(4) Failure to stay on the course road or moving on designated
intenance roads.

(5) Firing main gun at troop targets or firing weapons at any target
vice.

g. Vehicle crews that have been disqualified will not be allowed to
mplete the course and will not be allowed to make additional runs until
eared by the appropriate commander.

B A - Sequence of Events.

AB A (SEQUENCE OF EVENTS) TO APPENDIX II (RANGE OPERATIONS) TO SECTION II
TRAINING) TO FORT McCOY MPTR SOP

SEQUENCE OF EVENTS

EA	ACTIONS
ack Park	-Before Operations PMCS -Prep-to-fire checks
lding Area	-Boresight weapons systems -Install jump radio -Contact tower on admin/control net -Move to LD (Firing Line) as directed by OIC
(Firing Line)	-Firing vehicles conduct radio check with tower on firing frequency on order from OIC -Wing vehicles conduct radio check on admin/control net, switch to firing frequency on order from OIC
ring Line	-OIC permits vehicle commander to test fire machine guns -Firing vehicles report "REDCON" when prepared to negotiate the course -Course time starts when OIC sends first "SITREP" to firing vehicles -Course time stops at end of course run after vehicle commander issues last "Cease Fire"

PENDIX III (SUPPORT REQUIREMENTS) TO SECTION II (TRAINING) TO FORT McCOY MPTR
P

This appendix outlines the support recommendations for the conduct of nnery on the MPTR. This appendix provides a brief overview and does not place official taskings to support training.

Personnel.

TY	GRADE	QUANTITY
C	SFC+	1
	SSG+	1
OIC	SFC+	1
F SO	SSG+	1
E/BCE	SGT+	6
SO DRV	PVT	2
SO	SSG+	2

Equipment

EM	QUANTITY	LOCATION
fety Vehicle	1	Course Roads
dios	4	Operations Floor
/GRA 39	3	Operations to Unit Floor
mp Radios	6	Firing Vehicles

PENDIX IV (TOWER COMMUNICATIONS) TO SECTION II (TRAINING) TO FORT McCOY MPTR
P

PURPOSE. This appendix outlines procedures for the installation and intenance of the jump radio system on firing vehicles.

PROCEDURES.

a. The vehicle commander will install jump radios in the holding area. ter firing, the vehicle commander will disconnect the jump radio from his hicle and return it to the communications NCO before his AAR.

b. Jump radios will be used in evaluate crew duties and will not be used a means of communications between vehicle commander and tower.

c. The unit CESO will maintain sufficient batteries to operate the jump dios for the durations of his unit's gunnery density. Additionally, the CESO ll ensure that spare frequencies are available for the two jump and one test ts.

d. All radios installed in the tower must be grounded to the tower. The it will install four RT 524s on the operations floor of the tower. These dios will monitor the range control, administrative, firing, and jump nets./ he unit will establish communications for four nets prior to actual cupation. Twenty four volt power is available in the tower.

e. The second means of communication with Range Control is the phone in e operations level of the tower. This phone is restricted to range business.

CTION III (RANGE SAFETY) TO THE FORT McCOY MPTR SOP

PURPOSE. To outline the duties and responsibilities of the safety officer d to set standards for the safe conduct of training at the MPTR.

PROCEDURES. All personnel will receive a safety briefing prior to training the MPTR.

RESPONSIBILITIES.

a. Range Control Branch, DPTMSEC is responsible for providing technical sistance, as needed, and conducting safety inspections and OIC briefing.

b. Unit Commanders.

(1) Administer OIC/SO test.

(2) Designate officer-in-charge (OIC), safety officer O), and a laser safety officer for the MPTR.

(3) Ensure safety officers have been thoroughly trained and monstrate complete knowledge of safety procedures pertaining to the weapon(s) be fired and are laser safety certified.

(4) Ensure barrier guards as posted prior to live fire.

(5) Ensure all personnel receive a safety briefing and comply with blished safety regulations.

(6) Ensure safe utilization of the cantonment area, motor pool, and munition holding area.

(7) Ensure all crew members conduct the target identification rtification (see Appendix VII to Section III) prior to firing their first gagements.

c. RANGE OIC.

(1) Assume full responsibility of the operation, fety, and conduct of range operations.

(2) Ensure all tower personnel are present at their assigned stations ior to initiating engagement.

d. Safety Officer (SO).

(1) Present a safety briefing to all personnel prior to range firing.

(2) Ensure compliance with all safety regulations.

(3) Ensure safety vehicle with Assistant Safety Officer (SSG or above) llow the firing vehicle down range.

(4) Conduct the thermal target identification certification of all ew members prior to that crew beginning its first night engagement.

e. Assistant Safety Officer (ASO).

(1) ASO may be used during all night firing. The unit commander may e the ASO during the day if he so desires.

(2) Follow the firing vehicle down range.

(3) Ensure firing vehicles maintain weapons systems oriented in the propriate firing lanes and assist the OIC in controlling the movement of

nge fan. Ensure that firing vehicle and the weapon system do not move until e SO and Master Gunner arrive.

f. The vehicle commander is responsible for clearing all his weapons after e last engagement on the course (day or night) prior to returning to the seline. BFVs may render weapons inoperative as opposed to physically earing the ammunition. The vehicle commander will verify "all weapons clear" he reaches the baseline. The chain of command will conduct random spot ecks on their vehicles after they have cleared the tower to ensure that hicle commanders are complying with this requirement.

SCENARIOS.

a. All firing on the MPTR will be IAW scenarios approved by both the MPTR nager and the Range control Safety Officer. Scenarios must be submitted to e MPTR Manager for approval at least 30 days prior to the scheduled gunnery allow for approval and subsequent programing into the computer. Firing on e MPTR is not authorized without an approved scenario.

b. Any change of a firing point or target on a previously approved enario must also be approved by the MPTR Manager and Range Control Safety ficer prior to being implemented.

c. Scenarios are approved for safety based upon firing point/target mbinations and type of ammunition corresponding to each scenario step for ch course road. The location of vehicles on adjoining course roads is also y to safe execution of scenarios since firing matrices were developed based on the guidance that all vehicles would be on line. In order to ensure proved scenarios are executed safely, the OIC must ensure compliance with the llowing:

(1) Only those targets approved for each step of the scenario are thorized to be engaged with the ammunition approved for that step.

(2) All firing will be accomplished at the approved DP/firing point r defensive engagements and not forward of the approved firing point during fensive engagements.

(3) No vehicle is allowed forward of the firing vehicle during fensive engagements. When firing offensive engagements all vehicles will be line and not forward of the firing vehicle.

COORDINATING INSTRUCTIONS.

a. NO ONE is allowed down range without first coordinating with the Range C. The Range OIC will log all personnel as they enter/exit the target area.

b. When a cease fire or cease fire freeze is called, all personnel on the nge will take their instructions form the OIC. the OIC is in charge of the nge and will conduct an initial investigation of all reported safety olations.

c. The SOs place of duty will be a position on the range which allows him observe the safe conduct of range firing.

d. The SOs,. ASOs, and operational safety vehicles (if used) must be esent prior to range firing.

e. The SO will ensure the safe operation of the ammunition pad and nfiring vehicle parking area behind the tower.

REFERENCES.

a. FM 17-12-1, 1, 2, 3

e. FM 23-1

PPENDIXES:

I - General Safety
II - MPTR Barrier Gates
III - Barrier Guards
IV - Passage Lanes
V - Safety Officer Briefing
VI - Laser Safety (M1/M1A)
VII - Target Identification Certification
VIII - Safety Violations
IX - Misfire Procedures M1/M1A1/M60 Tanks
X - Loading/Unloading 25mm Gun
XI - Misfire Procedures M2/3 Bradley

PENDIX I (GENERAL SAFETY) TO SECTION II (RANGE SAFETY) TO FORT McCOY MPTR SOP

Purpose. This appendix outlines the procedures that units will use ncerning general safety at the MPTR.

PROCEDURES.

a. Safety awareness is everyone's business at the MPTR. Safety takes iority during any training event.

b. Safety is a function of common sense and discipline. Avoiding tentially hazardous situations is the best method in maintaining a safe aining event. Everyone training at the MPTR must be aware of hazardous tuations and discipline themselves in the correct avoidance techniques.

MOUNTING/DISMOUNTING VEHICLES.

a. The following methods will be utilized in mounting or dismounting hicles at the MPTR.

(1) M1/M1A1 Abrams Tank - mount over the left front fender.

(2) M60 series tank - mount over right front fender.

(3) M2/M3 - driver mounts from left front part of vehicle using the ovided foot/hand holds. All others mount Through the rear.

b. Vehicles will only be mounted or dismounted after all weapons are eared and the individual has the full attention of the crew.

c. If M1/M1A1 weapons cannot be cleared due to malfunction and safety rsonnel must board the vehicle, the engine will be shut off and the brake cked prior to personnel mounting the vehicle. Only then will personnel mount e tank over the sprocket.

d. No one is authorized to mount or dismount a vehicle after moving from e ready line until the vehicle clears the range at the base of the tower. e only exception to this rule is when safety malfunctions on the vehicle ctate it. The vehicle commander must notify the OIC prior to the vehicle ing mounted or dismounted.

e. M2/M3 Bradley Fighting vehicles and M113 Armored Personnel Carriers ll be mounted and dismounted from the rear door or ramp while on the course ad.

f. No one will jump from the side of a tracked vehicle when dismounting. ree point contact must be maintained when dismounting a vehicle.

Three point contact will be maintained at all times while on a tracked hicle.

Ground guides are required while moving vehicle behind the tower. Vehicles ll be ground guided after leaving the ammunition pad until the vehicle osses the ready line to enter the firing line.

Laser Range Finder ballistic doors will remain closed unless the vehicle is the boresight line, the firing line, or in the
TR maneuver box. Maintenance requiring the ballistic doors to be open will be nducted at the farthest left portion of the boresight line with the LRF aimed the boresight panel. Ballistic doors must be closed prior to exiting the nge.

The proper flag signals or lights will be displayed at all times. Every ring vehicle must have a complete serviceable flag set or lights before tering the range.

'PENDIX II (BARRIER GATES) TO SECTION III (RANGE SAFETY) TO FORT McCOY MPTR SOP

PURPOSE. This appendix outlines procedures units will use to ensure all 'TR SDZ/security gates are closed and locked prior to firing.

PROCEDURES.

a. The occupying unit is responsible to ensure that all MPTR gates mbered 1 through 20 (see page 48) are closed and locked, or have a guard sted to stop all traffic. The OIC will verify this is complete in range log ior to obtaining a wet time.

b. Upon completion of firing, MPTR gates 11 through 20 will be unlocked d opened. Report any broken gates or locks to the MPTR Manager. This must accomplished prior to clearance being granted.

'TR BARRIER GATE LOCATIONS MAP

PENDIX III (BARRIER GUARDS) TO SECTION III (RANGE SAFETY) TO FORT McCOY MPTR
P

Barrier guards are required at selected entry points. The location of rrier guards is determined by the Danger Areas required to support the type ammunition being fired at the MPTR. This requirement will be in effect ring Gunnery operation and is the responsibility of the firing unit.

Danger Area supports the firing of the following ammunitions: 5.56, 62,20mm, 30mm, 25mm, M793 and M190, 105mm, M490, 120mm, M831 and M865, 2.75 AR and inert TOW. The Danger Area requires the following entry points be arded:

a. MPTR Gate 3, grid XJ852787. (BIVOUAC RD, ON ORDER)

b. MPTR Gate 5, MPTR Entrance, grid XJ865782.

c. MPTR Gate 8, grid XJ874805. (BIVOUAC RD, ON ORDER)

Guards will have immediate communication with MPTR Operations. Guards will briefed that no vehicles, personnel, or aircraft are allowed in the Danger ea. If the guard is unable to stop entry or observes any vehicle, personnel, aircraft in the Danger Area, he/she will immediately notify the MPTR OIC.

At least one guard will be posted outside of the vehicles/warming tents to serve approaching vehicles and personnel.

Guard force will be organized under the control of a Sergeant of the Guard.

PENDIX IV (PASSAGE LANES) TO SECTION III (RANGE SAFETY) TO THE FORT McCOY MPTR
P

To ensure safe and efficient passage of units through the MPTR Danger Area ile the MPTR is occupied, passage of lanes must be coordinated.

Units requiring passage through the Surface Danger Zone during occupation st coordinate directly with the occupying unit. The requesting unit must epare a memorandum for the occupying unit's approval containing the following formation:

a. Unit to pass.

b. When passage is required.

c. Unit start point.

d. Unit release point.

e. Number and type of vehicles.

f. Name of OIC.

The memorandum must be approved by the unit which occupies the MPTR, with nvoy request to DPTMSEC for convoy clearance.

Units requiring passage through gates will sign for keys the gates from nge Control. The passing unit OIC will close and lock all gates after ssage.

The occupying unit will send an LNO to the unit start point. The LNO will main with the convoy commander until the last vehicle clears the impact area. he LNO will inform his headquarters when the impact area is cleared and all tes are closed and locked.

Passage through the MPTR Surface Danger Zone should be scheduled during ndatory shutdown times (see page XXX), Conflicts in passage times will be solved through the Chief, Training Division, DPTMSEC.

PENDIX V (SAFETY OFFICER BRIEFING) TO SECTION III (RANGE SAFETY) TO FORT COY MPTR SOP

e following information is offered as a guide in conducting the required fety briefing prior to range firing. All personnel on the range will receive is safety briefing regardless of what their job or position is on the range. t is the responsibility of the Range OIC to ensure that all material that is rtinent to range safety is covered, to include any recent safety messages garding training, weather, or ammunition.

SAFETY takes priority during any training event.

Treat all weapons as if the were loaded.

Follow all instructions given by the tower.

No smoking is allowed on the range except in the designated break area.

No running will be tolerated on the range.

Do not touch any dud or suspected dud ammunition. Report it to the NCOIC, fety Officer, or a TCE/BCE.

Brief laser safety procedures (APP. VI TO SECTION III).

Do not load weapons until told to do so.

Ear plugs must be worn forward of the tower.

. If anyone sees and unsafe act, they will immediately call "cease fire" ross the firing net.

.. On command of "cease fire", the firing crew will stop shooting and clear eir weapons.

. Do not fire out of range fans. Range boundaries are marked with thermal nge panels and lights. Ensure that you identify these markings prior to ring.

. If anyone sees a round fired out of the range fan, immediately call "cease re freeze" across the firing net.

. On the command of "cease fire freeze", the firing crew will stop all tions and take all commands from the tower.

. A red star cluster or flare is the emergency signal for "cease fire eeze".

. TCE/BCE will report any observed duds on the range to the safety officer.

. In the event of an injury, notify the OIC.

. If it is a serious injury, a MEDEVAC aircraft will be called for by the wer. Request for MEDEVAC procedures are located in the range book in the wer.

. Brief any safety messages that have an impact on MPTR training. EX: 90A1 chambering problems: do not assist round into the chamber. If it does t load the first time, do not use it.

. No one will climb in and out of the M2/M3 turret with the Turret Drive itch on.

.. Once the Turret Drive switch is on in the M2/M3 Turret, the

. During winter months, give cold weather safety instructions and include
cation of warm up tent. During summer months, brief on heat injuries and
cation of water point.

. Conclude safety briefing with a strong statement on thinking SAFETY.

PENDIX VI (LASER SAFETY) TO SECTION III (RANGE SAFETY) TO FORT McCOY MPTR SOP

GENERAL.

a. In accordance with Nonionizing Radiation Protection Study No. -0378-86 conducted at the U.S. Army Environmental Hygiene Agency, the tank ser range finder may be fired on the MPTR. This laser is not eye safe and n seriously injure the unprotected eyes of individuals who view the laser am directly or view the beam which has been reflected from specular surfaces flat mirror like). The hazard of exposure to the skin should still be oided.

b. Commanders. Commanders of units firing lasers are responsible for fety during all phases of firing exercises conducted by their units. mmanders will ensure:

(1) Strict compliance with procedures in AR 385-63, Ft McCoy Reg 5-1, TB Med 524, this SOP, the unit laser SOP and the FM/TM for the laser stem used.

(2) Any case of suspected exposure of the eye to radiation is reported the units Surgeon immediately so that an eye examination can be performed thin 24 hours of exposure. Range Control and the Fort McCoy Safety Division ll also be notified immediately.

RANGE REQUIREMENTS. Lasers fall under the same basic requirements as rect fire weapons. As a result, the following requirements will be met:

a. Officer-In-Charge (OIC). The OIC will be the rank of SFC or above and responsible for all aspects of laser safety on the range. This individual ll be laser safety certified by his/her commander and be thoroughly familiar th Chapter 19 of AR 385-63, Fort McCoy Reg 385-1, TB Med 524, this SOP, the it laser SOP and the FM/TM for the laser being fired. The direct fire apons OIC and laser OIC may be one and the same provided he meets the quirements for both systems. The OIC will be in the tower at all times enever lasing is being conducted.

b. Laser Range Safety Officer (LRSO). The LRSO will be in the rank of SSG above and laser safety certified by his/her unit commander. The LRSO will:

(1) Be present on the range at all times while lasing is being nducted.

(2) Read, understand, and ensure compliance with those procedures tlined in Chapter 19 of AR 385-63, Ft McCoy Reg 385-1, this SOP, the unit SOP r laser operations and training, TB Med 524, and the FM/TM for the laser in e.

(3) Tank commanders (TCs). The TCs are responsible for ensuring proper ser procedures are followed on their tanks.

RANGE OPERATION/PROCEDURE.

a. Whenever lasing is to take place on the MPTR, the type of laser to be ed will be included as part of the weapons systems to be fired on the range d given to Range Control when opening the range.

b. Prior to commencement of live lasing, a wet or hot time for lasing will requested from Range Control. If lasing is to ke place in conjunction with weapons firing, a hot time for sing and weapons systems may be requested at the same time.

c. The maximum altitude for lasing these targets is the top the approved target. Lasing from firing points or at targets her than those authorized or lasing over the top of any target

.ffuse targets during laser operations is permissible provided
e target is greater than 350 meters form the observation point, and all
ecular surfaces have been removed from the target area, to include ice on the
rget berms.

EYE SAFE LASER FILTER (ESLF). The ESLF device for the M1 tank laser range
nder, when properly installed, renders the laser eye safe; however, viewing
e beam should still be avoided. When requirements dictate the use ESLF
lters, the OIC or LRSO will inspect each vehicle to ensure ESLF devices are
operly installed.

OFF/ON RANGE TRAVEL.

a. Off Range Travel. Tanks traveling on tank trails or in training areas
ll do so with the ELSF device properly installed, the laser switch safety
ield in place and the ballistic doors closed. Once the tank arrives at the
nge, the ESLF device may be removed by organizational maintenance personnel;
wever, the laser safety shield will remain in place and the ballistic doors
ll remain closed.

b. On Range Travel. On range travel is considered to be movement from the
ack park to the tower/base line area. Tanks traveling in the range after the
LF device has been removed will have the laser switch safety shield in place
d the ballistic doors closed. The laser switch safety shield will remain in
ace and the ballistic doors closed until the tank arrives at the firing line.
t this time, the tank is considered loaded and no personnel or vehicles are
lowed forward of the tank. Prior to personnel moving forward of the tank for
oresighting purposes the OIC/LRSO will ensure the laser switch safety shield
ll be installed and the ballistic doors closed prior to the tank departing
e firing line.

SAFETY.

a. The firing vehicle will have communications with the OIC at all times.

b. Lasing will cease immediately whenever positive control of the laser
am is lost.

c. Lasing at any surface at a range of 20 meters or less is not
thorized.

d. Operation of the laser outside the range area is strictly prohibited.

e. Laser devices will not be operated or experimented with when removed
om the vehicle unless specifically authorized by the appropriate maintenance
nual.

f. Lasers will only be fired at targets which are diffuse reflectors. AT
time will lasers be fired at specular reflective surfaces; e.g., mirrors,
ndshields, etc.

g. Specular surfaces within 30 meters of laser targets will be removed or
vered prior to lasing.

h. Anyone observing an unsafe act or situation will immediately call cease
re. Lasing will not resume until the LRSO has investigated the situation and
clared it safe to fire.

i. The M1/M1A1/M60A3 will not be placed into operation on the boresight
ne.

PENDIX VII (TARGET IDENTIFICATION CERTIFICATION) TO SECTION III (RANGE SAFETY)
FORT McCOY MPTR SOP

To ensure the safe conduct of range firing, target identification miliarization is necessary prior to a crew (tank/BFV or ITV) starting their rst night engagement.

Every crew member will conduct target identification certification prior to ring at night.

Certification will consist of positive identification of all targets, hicles, and range safety markers to include:

a. One of each type of target on the range.

b. The type of tracked vehicle negotiating the course.

c. All safety vehicles.

d. Range boundary markers (both thermal markers and lights).

e. TRPs.

The safety officer will report the completion of the certification, by ew, to the range OIC.

The OIC will verify that all crew members have completed the certification ior to the crew conducting its first night engagement.

The Safety Officer will coordinate with the tower operator for the proper rget array and with the range OIC prior to moving vehicles in the MPTR neuver/target area.

'PENDIX VIII (SAFETY VIOLATIONS) TO SECTION III (RANGE SAFETY) TO FORT McCOY
'TR SOP

A safety violation during an engagement is defined as a round fired at the
ong target, out of the range fan, or any event connected with the firing
ent that is deemed unsafe.

Anyone observing a safety violation will immediately announce "CEASE FIRE"
the firing net. Anyone observing a round out of the impact area will
nounce "CEASE FIRE, FREEZE" on the firing net.

Responsibilities when "CEASE FIRE, FREEZE" is called.

a. Unit Commander.

(1) Authorize the range to return to wet status after the OIC has
mpleted his informal investigation, all identified safety hazards are
rrected, and Range Control has been notified.

(2) Notify all vehicle commanders on the course to stop all movement
the vehicles (to include elevation and traversing of turrets) and to clear
l weapons systems. If a weapon cannot be cleared without changing the
evation of the gun tube, then leave the weapon loaded and notify the tower of
e weapon that cannot be cleared.

(3) Notify Range Control of the "CEASE FIRE, FREEZE"
atus and give a brief description of the event.

(4) Log the event in the OIC range log.

(5) Conduct and informal investigation to determine the cause of the
ent.

(6) Present findings of the investigation to the unit commander prior
requesting to return the MPTR to a wet status.

c. Safety Officer and Unit Master Gunner.

(1) Immediately move to the firing vehicle.

(2) Verify the location of the vehicle, the deflection (lensatic
mpass) and elevation (M1A1 gunners quadrant) of the weapon system and type of
und(s) fired.

(3) Determine the appropriate location of impact of the round(s).

(4) Complete a DA Form 2823 (statement). The statement will contain
e following minimal information: location of vehicle, deflection and
evation of the weapon system and type of round(s) fired, approximate location
impact of round(s), if the information was estimated, and the reasons for
timating the data.

d. Assistant Safety Officer.

(1) Verify the location of the vehicle and the deflection and
evation of the weapon system at the time of the event.

(2) If movement of the vehicle or its weapon system occurs, give the
the approximate location, elevation and deflection when the event occurred.

e. TCE/Crew Evaluator.

(1) Verify the following information concerning the engagement:

(a) The correct scenario was loaded in the computer.

(e) Maintain crew "jump" radio tape.

(2) Log the event in the TCE/EVAL range log.

(3) Notify the Chief, Training Division, DPTMSEC, or his designated
presentative of the event.

(4) Complete a DA Form 2823 (statement) and attach the computer
intout to it. The statement will contain the following minimal information:
cenario name and step number, task by number and type, target presented and
gaged and a summary of the event.

f. Computer Operator.

(1) Make a scenario printout and give it to the OIC or NCOIC.

(2) Log the event in the computer operator's log.

(3) Notify the MPTR Manager or his designated representative.

(4) Complete a DA Form 2823 (statement). The statement will include
e following information: Scenario name and step number, computer operation
de (automatic or manual), target presented and a summary of the event.

g. Unit S1.

(1) Verify all statements under oath.

(2) Collect and give all statements to the Range OIC.

TE: If an investigating officer is appointed by the unit commander, AR 15 -6
ves him the authority to take sworn statements and he can assume the unit's
's responsibilities.

The range OIC will notify the unit commander, computer operator and Range
ntrol of his findings and all corrections to safety hazards prior to
questing a wet status. He will maintain a copy of all available information
rsuant to a formal investigation.

The Unit Commander has the authority to return the MPTR to a wet status
on completion of the Range OIC's investigation and after all safety hazards
e corrected and Range Control has been notified.

A written report will be submitted thru Range Control to the Training
vision, DPTMSEC NLT 5 days after the incident.

B A - Emergency Signal

AB A (EMERGENCY SIGNAL) ATO APPENDIX VIII (SAFETY VIOLATIONS) TO SECTION III
ANGE SAFETY) TO THE FORT McCOY MPTR SOP

The emergency cease fire signal at the MPTR is a red star cluster or a red
are.

Units will supply two red star clusters or flares for emergency use at the
TR. They will be located on the operations floor of the tower.

The emergency signal will be used by the range OIC or the NCOIC when one of
e following conditions exist:

a. Weapons are loaded and communications with the firing vehicle are lost.

b. At any time when the OIC does not have positive control of the firing
hicles on the complex.

Responsibilities when a red star cluster or flare is used are the same as
sted in Appendix VII, Safety Violations.

Personnel firing a star cluster or flare from the operations floor of the
wer will ensure that the star cluster is positioned at a sufficient angle to
ear the tower roof. Star clusters will be fired at the center of the down
nge area only.

PENDIX IX (MISFIRE PROCEDURES{M1/M1A1/M60 TANKS}) TO SECTION III (RANGE
AFETY) TO FORT McCOY MPTR SOP

PURPOSE. To outline the correct procedures for handling a misfire within
M1/M1A1 or M60 series tank.

PROCEDURES.

ARNING: Keep personnel clear of the muzzle and path of recoil of the main
n. The round may fire without warning.

a. Follow the misfire procedures outlined in the appropriate TM. The crew
aluators will stop the target exposure and engagement time upon hearing the
cond "MISFIRE" from the crew.

b. The OIC or SO will time the misfire event to ensure the appropriate
me is adhered to.

c. After all misfire procedures have been accomplished and the round will
t fire, consider the round faulty and remove it from the breech. The SO or
O will transport the round from the vehicle to the dud pit.

PENDIX X (LOADING/UNLOADING 25MM GUN) TO SECTION III (RANGE SAFETY) TO FORT COY MPTR SOP

PURPOSE. To outline the correct procedures for loading/unloading 25mm gun the M2/3 Bradley.

PROCEDURES.

a. Load 25mm.

(1) Ammunition will only be loaded in the ready boxes at the tower rking lot or at the ammo pad.

(2) Ammunition will only be loaded in the ammunition forwarder when ld to by the OIC.

(3) Place the elevation power manual lever in the manual position.

(4) Remove the gun guard and open the gas bag.

(5) Manually depress the gun as far as it will go (-175 mils).

(6) Place the manual safe level to safe position.

(7) Manually elevate the gun to 200 mils.

(8) Select the type ammunition being used (AP or HE) using the feed lect handle.

(9) Use 14mm ratchet wrench, forward ammunition up the feed chutes til selected ammunition clutch override button starts to lift up.

(10) Use 14mm ratchet on the sprocket extension (on feeder); turn rocket the number of times desired (AP once and HE twice) until round is ated.

b. Unload 25mm gun, feed chutes and feeder.

(1) Set turret drive switch to off.

(2) Set arm safe switch to safe.

(3) Remove gun guard.

(4) Be sure the gun bolt position indicator is in sear.

(5) Unzip gas bag.

(6) Turn manual safety level to safe.

(7) Push feeder handle latch down and hold. Lift feeder handle to up sition. Release latch.

(8) Disconnect wiring harness connector from electrical connector on n receiver.

(9) Manually depress the gun as far as it will go (-175 mils).

(10) Detach link eject chute. Remove all loose links from eject chute.

(11) Use 14mm ratchet to back the unfired ammunition out of the feeder iring AP, select HE or vice versa).

(12) Manually elevate gun to 200 mils.

(15) Pull out drive shaft handle located on bottom of receiver until stops.

(16) Remove feeder. Ensure no rounds are in the feeder or the ceiver. Remove any brass or live ammunition.

BS:
- Loading Ready Boxes
- Proper Flag Display for M2/3

B A (LOADING READY BOXES) TO APPENDIX X (LOADING/UNLOADING 25MM GUN) TO
CTION III (RANGE SAFETY) TO THE FORT McCOY MPTR SOP

PURPOSE. To outline the procedures for loading the ready boxes on M2/3
adley.

PROCEDURES.

a. Ready boxes will be loaded on the Ready Line.

b. Ammunition **WILL NOT** be loaded in the ammunition forwarder until told to
OIC.

c. Traverse turret to (2150 mils HE or 4550 mils AP).

d. Turn turret drive and turret power switch off.

e. Inspect ammunition.

f. Remove access door following the instructions on the inside of the
cess door.

AB B (PROPER FLAG DISPLAY FOR M2/3) TO APPENDIX X (LOADING/UNLOADING 25MM GUN)
SECTION III (RANGE SAFETY) TO FORT McCOY MPTR RANGE SOP

PURPOSE. To outline the proper flag display for M2/3 Bradley.

PROPER DISPLAY OF FLAGS. On all ranges, the vehicle will display flags to ow the vehicle's weapon status. The following flags will be used:

a. Red. Bradley is engaging in firing. Weapons are loaded, pointing at e target area and electrical safe and manual safe are off.

b. Green. All weapons are cleared and elevated and electrical safe and nual safe are on. All ammunition on board the vehicle is stowed.

c. Yellow and Red or Green. There is a malfunction on the vehicle. This ag is used in conjunction with the red or green ag.

(1) Yellow and Red. The Bradley has a malfunction or misfire. apons are pointing at the target area and are not clear.

(2) Yellow and Green. The Bradley has a malfunction and all weapons e clear and electrical safe and manual safe are on.

d. Red and Green. The Bradley is preparing to fire or the crew is nducting a nonfiring exercise. The 25mm gun feeder may be loaded, but the lt is in sear position, and electrical safe and manual safe are on. The coax y be loaded, bolt to the rear and manual safe are on. Ammunition is loaded the ready box.

PENDIX XI (MISFIRE PROCEDURES ON M2/3 BRADLEY) TO SECTION III
ANGE SAFETY) TO THE MPTR SOP

Purpose. To outline the correct procedures for handling a misfire for M2/3 adley.

PROCEDURES.

a. Ensure arm, safe, reset switch was in arm position.

b. Released trigger switches and waited 5 seconds.

c. Pressed SS of ammunition selected.

d. Pressed misfire button.

e. Squeezed trigger switches.

f. Ensured gear indicator light was on.

g. If these procedures did not correct the problem, move the vehicle to e hot box on the left side of the range.

h. Go through clearing procedures. Inspect ammunition belts and have the ster Gunner inspect the 25mm gun.

PENDIX XII (MISFIRE PROCEDURES ITV) TO SECTION III (RANGE SAFETY) TO FORT
COY MPTR SOP

TBP

CTION IV (AERIAL GUNNERY) TO FORT McCOY MPTR SOP

GENERAL.

a. All aerial gunnery will be conducted IAW this SOP and AR 385-63 and DA m 350-3 and will be under the supervision of a warrant or commissioned ficer acting in the capacity of OIC. The OIC is responsible for the safe eration of the range.

b. The range includes numerous points and firing lanes for rial gunnery (Scenarios must be approved prior to firing by nge Safety/MPTR Operations IAW with this SOP), the area weapons scoring stem (AWSS), control tower and administrative areas for messing, parking, etc.

c. This SOP is not to be construed as all inclusive. Detailed structions on the conduct of helicopter firing for training will be found in blications pertinent to each weapon or system being fired, individual rcraft operator's manual, and unit SOPs.

DEFINITIONS.

a. Officer-In-Charge (OIC) - A qualified warrant or commissioned officer signed to ensure the safe operation of a firing range or area.

b. Safety Officer - A qualified commissioned officer, rrant officer, or NCO (SSG or above) who is the safety presentative of the OIC of the training unit. He will not be signed other duties while acting in this capacity. The SO must safety certified by his battalion commander.

c. Pilot-in-Command (PIC) - A qualified warrant or commissioned officer signed responsibility for safe operation of assigned aircraft and weapon stems.

d. Ready Line - The line on which aircraft are positioned where student nners and ammunition are loaded aboard.

e. Start Fire Line (SFL) - The line of the ground, clearly marked and sible to the AC, over which an inbound aircraft may be cleared to commence ring.

f. Cease Fire Line (CFL) - The line on the ground, clearly marked and sible to the AC, at which point all firing will have ceased and ammunition ll be removed from the guns.

g. Firing Lane - Area of range between the start fire line and cease fire ne in which all firing from the aircraft must be done.

h. Weapons Systems Cleared - All ammunition removed form the assembled stem or system components, disassembled to positively prevent loading.

PENDIX I (RANGE OPERATION) TO SECTION IV (AERIAL GUNNERY) TO FORT McCOY MPTR
P

GENERAL. For detailed instructions regarding training on licopter gunnery, refer to training directives and unit SOPs. is SOP was prepared as an aid to OICs in the use of the range r the safe and efficient conduct of training and is not tended to conflict with AR 385-63 or other training and safety rectives.

RANGE PROCEDURES.

a. Prior to loading and firing of aircraft weapons, the OIC will direct on more aircraft to overfly the firing lane, target area, and impact and jacent danger areas for presence of personnel and/or vehicles. Report of lear" will be received prior to loading and firing. At any time during range ring that personnel are observed in or near the danger area, a cease fire ll be called.

b. The range will be under complete control of an appointed OIC who is a mmissioned or warrant officer and a qualified pilot in the aircraft and apons system being used on the range. The OIC will be responsible for all tivities on the range.

c. Before arming or firing commences on a range, positive radio mmunications (FM 46.80 or 41.90) must be established between the OIC and Fort Coy Range Control and clearance to open range is granted. Two way radio mmunications must also be established between the OIC and PIC of each rcraft operating on the range. Upon loss of communications between the OIC d the aircraft or the OIC and Range Control, an immediate cease fire will be rected and the weapons cleared.

d. The OIC will be sure that all pilots using the range are familiar with e range, i.e., ready line, firing lane, start fire line, cease fire line, pact area and danger zone.

e. All aircraft reporting to ranges for gunnery training and parting from ranges upon completion of same will do so with l weapons cleared. PICs are responsible for inspections to sure that all weapons are cleared.

f. Weapons arming will take place in the air on command of the SO with rcraft oriented so that weapons are pointed down range.

g. All aerial gunnery will commence at the SFL and terminate before or at e CFL and will be conducted under the supervision of the SO in conjunction th clearances received from the OIC.

h. Aircraft inbound for firing runs will enter the firing lane on a ading designated by Range Control for aerial gunnery. Aircraft conducting rial gunnery from designated hover firing points may select various engress d egress routes.

i. Vehicle parking, mess area, and other administrative areas and/or tivities will be established or conducted in designated areas.

j. Upon completion of firing and prior to vacating the range, the OIC will sure that a thorough police of the range is accomplished and all trash, munition components (brass and links), containers, cartons, boxes, food ntainers, etc., are removed from the range. Personnel will not proceed into e boundaries of the impact area to police nor will trash, ammo, components, c., be disposed of by dumping same into the impact area. All TOW wire within e MPTR boundaries will be removed before unit can clear the range.

k. The following are the only authorized Aerial Battle Positions(ABP). Any

3	87027951	
4	86787860	
5	86947842	
6	87177850	Running Fire, Appx. 1500m to CFL
7	87327876	
8	87227856	Running Fire, Appx. 1500m to CFL

l. Angle of Launch is restricted to 16 degrees at < 10m AGL, 14 degrees > 10m AGL and 12 degrees for running fire.

PENDIX II (SAFETY) TO SECTION IV (AERIAL GUNNERY) TO FORT McCOY
TR SOP

GROUND SAFETY. Ground support personnel must be constantly aware of the ngers involved in live-fire training. Support personnel will be trained in e care and handling of ammunition, loading and unloading procedures for each apon subsystem, and procedures for working near operating helicopters. loading areas should be separate from refueling. All requests essential to eration of the range should be communicated to the service atoon leader as soon as possible in order to allow maximum action time.

a. Personnel will not pass in front of a loaded armament subsystem after e helicopter has landed.

b. When approaching the helicopter, personnel will approach from the 90 gree side position, and only after receiving visual recognition of the rcrew.

c. All personnel will exercise extreme caution while walking under the in rotor arc or in the vicinity of the tail rotor.

d. The helicopter will not be moved until an armorer moves out of the main tor arc at the 90 degree position and signals all clear.

e. Prior to departure from the arming or disarming area for the home ation, support personnel will remove all ammunition from the helicopter.

f. The helicopter must be grounded prior to any work being performed and fore the aircrew enters or exits the helicopter.

g. All personnel working in or near the helicopter will have their sleeves lled down and will use proper hearing and eye protective devices.

h. When operations are being conducted at night, ground personnel will ways carry a flashlight or wear a head lantern and will make sure that the ght is on when they are working in the vicinity of the helicopter.

AIR SAFETY.

a. aircraft will be cleared off the loading zone/ready line by the OIC ly.

b. Weapons systems will be pointed down range and within range fan limits.

c. Weapons systems will be armed only if all the following conditions are t as determined by a PIC aboard the aircraft:

(1) Aircraft weapons systems are pointed down range and aircraft is in ne when approaching SFL.

(2) No other aircraft is down range in the range danger area.

(3) Clearance has been received by the PIC from the range OIC to go t.

d. Aircraft will be flown at such altitude and over such terrain where an ergency landing could be safely executed whenever possible, except when on a ring or practice run down range or when in the maneuvering area. Maximum titude for firing run is 100 feet above highest terrain feature in maneuver x.

e. Effective two way voice communications will be maintained between rcraft and range OIC. When effective communications fail, the PIC will mediately cease all firing and clear the weapon until communications are

a. Armament subsystems are considered safe for range traffic pattern erations under switches off conditions. A switches off condition does not clude pulling circuit breakers of the weapons systems. Pulling circuit eakers of weapons systems ungrounds the system; therefore, their circuit eakers should be left in, but all arming switches should be off. (Refer to e appropriate technical manual for correct safeing procedures for each weapon stem).

b. The armament subsystem may be placed in the arm position only if all of e following conditions are satisfied:

(1) The helicopter is pointed down range.

(2) No other aircraft is in the range danger zone. (Helicopters intaining lateral positions to each other may be cleared to conduct formation ring and team training.)

(3) Clearance has been received from the SO to arm the weapons.

c. Operation and position of the arming switch is the responsibility of e instructor pilot or PIC. When conducting NOE hover fire, the armament stem will not be armed until arriving at the firing position.

WEAPONS SYSTEM SAFETY (DOOR GUNNER TRAINING)

a. Pilot or co-pilot's doors will not be opened unless guns are cleared.

b. Minimum slant range to bullet impact will be 300 meters. Maximum titude is 100 feet above highest terrain feature in maneuver box.

c. Misfires will be handled IAW pertinent technical and field manuals. ter a second attempt has been made to fire, the aircraft will be landed on e ready line with the weapon pointed down range, and when proper precautions ve been taken the misfired ammunition will be unloaded and disposed of IAW AR 85-63.

d. The assistant instructor (AI) on board is responsible for arming and sarming weapons. The PIC will order cease fire when he observes firing being nducted that is impacting outside of the impact area or limits of fire or in yway jeopardizes safety of personnel or property, military or civilian. The C will give oral commands to load or clear weapons and the AI will ysically check to ensure that all weapons are cleared prior to departing nge upon completion of training.

AIRCRAFT AND ARMAMENT EMERGENCY PLAN.

a. Aircraft and armament emergencies are defined as any emergency volving aircraft accident, incident, forced or precautionary landing, or ergency involving a weapons system accident, incident, or inadvertent firing, ere ammunition has been dropped or fired outside the prescribed impact or nger
ea.

b. All accidents and/or incidents as described above will be reported mediately by the OIC or other officer on the range, by radio (FM frequency .80 or 41.90) or telephone, to Range Control. All reports should contain, as minimum, the following information:

(1) Location of the accident.

(2) Type of aircraft and/or weapon involved.

(3) Time of accident.

(4) Any personnel injuries.

d. Dispatch an ambulance and crash/rescue team to the site simultaneously .th the radio or telephone report.

e. Designate on helicopter to proceed to the crash site to sist the medical evacuation crash/rescue teams and to establish dio communication at the site.

f. Direct the remaining helicopters to the firing line or loading area to ait further instructions.